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Task 9

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**Different Between “Sub-Netting & Super-Netting”, with Example (draw structure in cisco)**

**Subnetting**

Subnetting divides a large network into smaller, manageable sub-networks (subnets). This helps optimize IP address usage and manage traffic effectively.

**Key Points:**

Increases the number of networks.

Reduces the size of individual networks.

Requires borrowing bits from the host portion of the IP address.

**Example:**

**Given:** IP Address 192.168.1.0/24.

Subnet into 4 subnets using /26 (255.255.255.192):

Subnet 1: 192.168.1.0 - 192.168.1.63 (Usable: 192.168.1.1 - 192.168.1.62)

Subnet 2: 192.168.1.64 - 192.168.1.127 (Usable: 192.168.1.65 - 192.168.1.126)

Subnet 3: 192.168.1.128 - 192.168.1.191 (Usable: 192.168.1.129 - 192.168.1.190)

Subnet 4: 192.168.1.192 - 192.168.1.255 (Usable: 192.168.1.193 - 192.168.1.254)

Supernetting:

Supernetting combines multiple smaller networks into a larger one. This is often done to reduce routing table entries and optimize large-scale routing.

**Key Points:**

Reduces the number of networks.

Increases the size of the network.

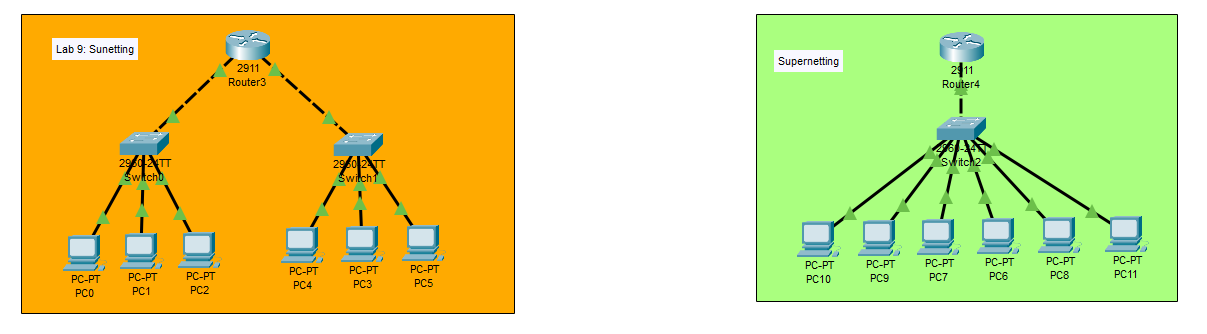
Requires borrowing bits from the network portion of the IP address.

**Example:**

**Combine:** 4 Class C Networks (192.168.1.0, 192.168.2.0, 192.168.3.0, 192.168.4.0).

Supernet into a single network using /22 (255.255.252.0):

Combined range: 192.168.0.0 - 192.168.3.255 (Usable: 192.168.0.1 - 192.168.3.254).

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